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REMARKS

The present response is filed in response to the Final Official Action mailed September 11, 2003, and the Applicant respectfully requests the entry of the following before reconsideration of this application. The Applicant also respectfully requests allowance of the present application in view of the following Response After Final, or if necessary an Advisory Action.

Claims 4, 6 and 7 are rejected, under 35 U.S.C. § 102(b), as being anticipated by Stem et al. '557. The Applicant acknowledges and respectfully traverses the raised anticipatory rejection in view of the following remarks.

In brief, and as recited in claim 4, the present invention is directed to a cable broadcasting system that includes a central equipment having broadcasting equipment for transmitting broadcast signals on a transmission line and a controller for transmitting command signals controlling distribution of the broadcast signals to broadcast signal receiving terminals. The broadcast and command signals are transmitted to receiving districts wherein each receiving district includes tap devices connected from the transmission line for distributing the broadcast signals to terminals, and a district power supply connected from a power source and providing a power signal through the transmission line to the tap devices of the receiving district.

Each tap device includes the circuits necessary to switchably and controllably control the distribution of the broadcast signals to the terminals, including switchable tap paths for distributing the broadcast signals to the terminals, control relays for controlling connections between the tap paths and the terminals, and a tap control responsive to the command signals for controlling the control relays. Each tap device also includes a tap device power supply connected from the power signal on the transmission line and providing power to the tap device.

An essential aspect of the invention which must be emphasized at this point, and which is recited in claim 4, is that the receiving terminals are organized into receiving districts

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containing one or more tap devices, each having taps for connection of the receiving terminals to the broadcast signals, and that each receiving district contains a single district power supply for providing a power signal to all of the tap devices in the district through the transmission line. Stated more briefly, each district contains a number of tap devices and each district has a single district power supply providing power to the tap devices of the district.

This aspect of a cable broadcasting system of the present invention is further recited in claim 4 in the recitations that the center equipment includes broadcasting equipment for transmitting broadcast signals on a transmission line and a controller for transmitting command signals on the transmission line to control the tap devices. As described in the specification and as shown in the drawings, the center equipment contains a local power supply for supplying power to the center equipment, and only to the center equipment. That is, the center equipment power supply does not transmit power to any of the districts or the tap devices therein and, as such, is not in itself pertinent to the present invention, so that the center equipment power supply is not recited in the previous or present claims.

It is described in the present application that the use of distributed power supplies according to the present invention, that is, the use of one district power supply in each district providing power to the tap devices of the district, is to reduce the cost and size associated with a single, central power supply, as well as the dependency of the entire system on a single power supply, by using a number of smaller, more efficient district power supplies.

As described in the application, this aspect of the cable system of the present invention leads to a further aspect of a cable broadcasting system according to the present invention. Specifically, and in accordance with the principle of using smaller, more efficient distributed power supplies to power each district individually, it is desirable that each district power supply have no more capacity than is necessary for a reasonable number of tap device switching operations at a given time. That is, each switching operation in a tap device requires additional power from the district power supply, and each district power supply is sized to some selected

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average and maximum power level, which relates to a corresponding maximum number of concurrent tap device switching operations that can be supported at a given time.

It is recognized, however, that a center equipment may require a relatively large number of concurrent or closely consecutive tap device switching operations, and that a number of these operations may be concentrated in a given district. In such instances, there is a risk of exceeding the number of concurrent or closely consecutive switching operations that the district power supply can support, and potential failure of or errors in the system.

This consideration thereby leads to an essential aspect of the present invention, that of controlling the number and occurrence of command signals directed to the tap devices in each district so that the number of concurrent or consecutive switching operations in a district do not exceed a limit. More specifically, and as recited in claim 4, the center equipment controller that generates and transmits command signals to the tap devices will generate a sequence of command signals to the control relays of the tap devices of each district so that successive command signals are transmitted to different receiving districts. Stated another way, center equipment controller will not transmit two consecutive command signals to the same district, thereby automatically limiting the number of concurrent or too closely consecutive tap device switching operations that can be commanded in any given district.

This aspect of the present invention is further delineated in claims 5, 6 and 7 which, in addition to other limitations, recites that in the case of command signals transmitted by the center equipment controller the interval between transmission of command signal to a given district will be at least that required for a tap device in the district to complete execution of a preceding command signal.

Turning now to Stern et al. '557, this reference explicitly and clearly describes that the command signals for controlling the addressable taps and a power signal for providing power to each of the addressable taps is transmitted through the transmission line to the addressable taps as a single signal. That is, in Stern et al. '557 the command signals are effectively

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superimposed on the power signal by coding of the waveform of the power signal. In fundamental contrast from Stern et al. '557, however, the system of the present invention transmits command signals that are separate from and distinguished from the power signals to the districts, which it should be noted effects the design and operation of virtually every aspect of the Stern et al. '557 system, as will be discussed below.

For example, and inn further fundamental and critical distinction from the broadcasting system of the present invention, Stern et al. '557 does not address or even consider the effects of power consumption due to concurrent or closely consecutive addressable tap switching operations due to concurrent or closely consecutive command signals transmitted to the tap devices, and does not even address issues of power supply adequacy arising from the number of concurrent or consecutive command signals directing concurrent or consecutive tap switching operations.

In fundamental contrast from the teachings of Stern et al. '557, the present invention specifically address and provides solutions to issues of power supply adequacy arising from the number of concurrent or consecutive command signals directing concurrent or consecutive tap switching operations.

For this reason, therefore the system of Stern et al. '557 cannot and does not teach or even suggest that command signals should be issued on a per district basis, or that consecutive command signals should not be issued to a given district, so that consecutive or concurrent command signals are not issued to the same district, or that command signals should be spaced apart in time by a period sufficient for a tap device to complete a switching operation before a next command signal is issued to the same district.

This fundamental distinction of the present invention over the teachings and suggestions of Stern et al. '557 are explicitly recited in claim 4 as amended herein above in the recitations that

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in a sequence of command signals transmitted by the center equipment controller to control the control relays of a plurality of tap paths, successive command signals are transmitted to different receiving districts

and

the controller of the central equipment
transmits a command signal to a receiving district
having at least one tap device to which a command signal is to be
transmitted,

transmits a command signal to a receiving district
which has not received a command signal in a proceeding transmission
of a command signal and which has at least one tap device to which a
command signal is to be transmitted, and

repeats the transmission of command signals as
necessary to provide at least one command signal to each tap device
which is to receive a command signal.

In this regard, it will be noted that the above discussed amendments to claim 4 are fully supported the specification and claims of the present application as originally filed and as amended during the course of prosecution, so that these amendments have not introduced any new subject matter and have not altered the subject matter or scope of the claims.

It will be further noted that this fundamental distinction of the present invention over the teachings of Stern et al. '557 is further delineated, as discussed above, in the recitation of claim 5 that: "the center equipment controller will transmit a command signal to a tap device in a receiving district only after an operating time required for a tap device in the receiving district to complete execution of a preceding command signal has elapsed." That is, claim 5 addresses the same issues and inventive aspects, but with specific regard to allowing a commanding switching operation of a tap device in a given district to complete before a next command signal is addressed to that district, thereby avoiding overlapping switching operations.

It is noted that in the present official action the Examiner provides an extensive recitation of the present claims with references to Stern et al. '557 in stating that Stern et al. '557 essentially teaches of the recitations and limitations expressed in claim 4 and in claims 6 and 7. The Applicant respectfully disagrees with the Examiner as, as discussed above and as essentially admitted by the Examiner in the following rejection of claim 5 under 35 U.S.C. § 103

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over Stern et al. '557 in further view of Kato et al. '044, Stern et al. '557 does not teach or even suggest essential aspects of claim 4 and thereby of claims 6 and 7 by dependence from claim 4.

For example, Stern et al. '557 contains no teaches or suggestion of the limitations of claim 4 of:

in a sequence of command signals transmitted by the center equipment controller to control the control relays of a plurality of tap paths, successive command signals are transmitted to different receiving districts

or

the controller of the central equipment
transmits a command signal to a receiving district having at least one tap device to which a command signal is to be transmitted,
transmits a command signal to a receiving district which has not received a command signal in a proceeding transmission of a command signal and which has at least one tap device to which a command signal is to be transmitted, and
repeats the transmission of command signals as necessary to provide at least one command signal to each tap device which is to receive a command signal.

In this regard, it is noted that in the Final Office Action of February 2, 2003, the Examiner has stated on page 4 that "Stern fails to specifically state that in a sequence of command signals to the control relays, successive command signals are transmitted to different receiving districts."

In the present Final Office Action, the Examiner essentially repeats this position with the statement, on page 3 thereof, that column 6, lines 12-17 of Sterns et al. '557 "shows that separate, or successive, commands can be sent to different districts, or power units, then the following control signals are sent to the district tap units."

On page 5 of the present Final Office Action, however, the Examiner states that: "Stern fails to show that a command signal will be sent to a tap device in the receiving district only after an operating time required for the tap device in the receiving district to complete execution of the preceding command has elapsed", and refers to Kato et al. '044 as providing the teachings missing from Stern et al. '557.

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It appears, therefore, that the Examiner's interpretation of and opinion of the teachings of Stern et al. '557 are inconsistent and that the Examiner's cites of the teachings of Stern et al. '557 are in mutual contradiction.

It is the Applicant's belief and position, however, that the Examiner's statement that "Stern fails to show that a command signal will be sent to a tap device in the receiving district only after an operating time required for the tap device in the receiving district to complete execution of the preceding command has elapsed" is correct. Support for this position is provided by Stern et al. '557 at, for example, column 6, lines 7-21, wherein it is clear that the goal of the Stern et al. '557 system is to achieve as near simultaneous transmission of command signals to the tap device and districts as possible, and to achieve as near simultaneous switching of the tap devices, whether within a single district or located in multiple districts, as is possible.

It is clear that Stern et al. '557 in fact teaches directly away from the present invention in this regard, and teaches directly away from the objects of the present invention, specifically the avoidance of multiple concurrent or too close switching operations on tap devices supported by a single power supply.

It is the belief and position of the Applicant, for the reasons discussed herein above, that claims 4, 6 and 7 are fully and patentably distinguished over the teachings and suggestions of Stern et al. '557 under both 35 U.S.C. §§ 102 and 103 for the above discussed reasons. The Applicant, therefore, respectfully requests that the Examiner reconsider and withdraw all rejections of the claims under 35 U.S.C. § 102 over Stern et al. '557, and allow claim 4, 6 and 7.

Next, considering the rejection of claim 5, under 35 U.S.C. § 103(a), as being unpatentable over Stern et al. '557 further in view of Kato et al. '044, the teachings and suggestions of Stern et al. '557 have been discussed herein above and are incorporated into the following discussions of the prior art.

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In this regard, it has been clearly shown herein above that Stern et al. '557 does not teach or suggest the above discussed aspects of the present invention under the requirements and provisions of 35 U.S.C. §§ 102 and/or 103 and that Stern et al. '557 in fact teaches directly away from the present invention as regards the timing and sequencing of command signal to the tap devices. In particular, Stern et al. '557 does not reach or even suggest the recitations of claim 4, which are incorporated into claim 5 by dependence from claim for, that:

in a sequence of command signals transmitted by the center equipment controller to control the control relays of a plurality of tap paths, successive command signals are transmitted to different receiving districts

or

the controller of the central equipment
transmits a command signal to a receiving district having
at least one tap device to which a command signal is to be transmitted,
transmits a command signal to a receiving district which
has not received a command signal in a proceeding transmission of a command
signal and which has at least one tap device to which a command signal is to be
transmitted, and
repeats the transmission of command signals as
necessary to provide at least one command signal to each tap device which is
to receive a command signal.

As discussed above, not only does Stern et al. '557 not teach or suggest these aspects of the present invention, but the Examiner effectively admits, in at least the present Final Office Action, that Stern et al. '557 does not teach or suggest these essential limitations of the present invention as recited in claim 4 and consequently recited in claims 5, 6 and 7 by dependency therefrom.

The Examiner therefore instead relies on Kato et al. '004 and, in particular, Kato et al. '004 at column 28, lines 1-21, and column 29, lines 35-62 for the teachings missing from Stern et al. '557.

The Applicant respectfully disagrees with the Examiner's reading and interpretation of Kato et al. '004, however, and refers to column 2, lines 44-61; column 3, lines 12-14 and 30-36; column 6, lines 1-10; column 16, line 31 - column 17, line 46; column 26, line 20 - column 29,

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line 67. In these portions of Kato et al. '004, the applied reference teaches that the system is capable of performing two types of operations to control the connection of picture sources to picture destinations.

In the first type of operation, which the Examiner apparently has misinterpreted Kato et al. '004 as Kato et al. '004 in fact teaches that the central control unit may transmit a program of operation commands for connections to each of the picture sources and destinations and each of the picture sources and destinations will execute its corresponding program on command at a time and in a timed sequence. First, Kato et al. '004 has no concept or teaching of districts or district taps or district power supplies or of the avoidance of sequential commands to a single district to prevent overloading of the district power supply, so that these programmed sequences have no correspondence to the present invention. Secondly, Kato et al. '004 specifically states that the commands of the sequences may be executed synchronously or in concurrence, which, like Stern et al. '557, teaches directly away from the teachings of the present invention to time and transmit the command signals to avoid concurrent or too close switching operations in a single district.

In the second type of operation, Kato et al. '004 specifically states that the connections between picture sources and picture destinations can be switch concurrently and synchronously so as to synchronous the presentation of pictures to a viewer or viewers. This teaching of Kato et al. '004, in fact, again teaches directly away from the present invention as recited in claim 4 and, by dependence, in claims 5, 6 and 7.

It is the belief and position of the Applicant that claims 4, 5, 6 and 7 are fully and patentably distinguished over the teachings and suggestions of both Kato et al. '004 and Stern et al. '557 in further view of Kato et al. '004 under the requirements and provisions of either or both of 35 U.S.C. §§ 102 and 103. The Applicant, therefore, respectfully requests that the Examiner reconsider and withdraw all rejections of the claims under either or both of

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35 U.S.C. § 102 and/or § 103 over either or both of Kato et al. '004 and/or Stern et al. '557 in further view of Kato et al. '004 and allow of claim 4, 5, 6 and 7.

If any further amendment to this application is believed necessary to advance prosecution and place this case in allowable form, the Examiner is courteously solicited to contact the undersigned representative of the Applicant to discuss the same.

In view of the above amendments and remarks, it is respectfully submitted that all of the raised rejection(s) should be withdrawn at this time. If the Examiner disagrees with the Applicant's view concerning the withdrawal of the outstanding rejection(s) or applicability of the Stern et al. '557 and/or Kato et al. '004 references, the Applicant respectfully requests the Examiner to indicate the specific passage or passages, or the drawing or drawings, which contain the necessary teaching, suggestion and/or disclosure required by case law. As such teaching, suggestion and/or disclosure is not present in the applied references, the raised rejection should be withdrawn at this time. Alternatively, if the Examiner is relying on his/her expertise in this field, the Applicant respectfully requests the Examiner to enter an affidavit substantiating the Examiner's position so that suitable contradictory evidence can be entered in this case by the Applicant.

In view of the foregoing, it is respectfully submitted that the raised rejection(s) should be withdrawn and this application is now placed in a condition for allowance. Action to that end, in the form of an early Notice of Allowance, is courteously solicited by the Applicant at this time.


The Applicant respectfully requests that any outstanding objection(s) or requirement(s), as to the form of this application, be held in abeyance until allowable subject matter is indicated for this case.

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Respectfully submitted,


Michael J. Bujold, Reg. No. 32,018
Customer No. 020210
Davis & Bujold, P.L.L.C.
Fourth Floor
500 North Commercial Street
Manchester NH 03101-1151
Telephone 603-624-9220
Facsimile 603-624-9229
E-mail: patent@davisandbujold.com

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